

REMARKS**Summary of the Office Action**

Claims 1-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Related Art FIGs. 2 and 3F in view of Kakuda et al. (US 5,162,933).

Claim 1 is objected to for a minor informality.

Summary of the Response to the Office Action

Applicant has amended claim 1 to correct a minor formality unrelated to patentability. Accordingly, claims 1-14 are pending for further consideration with claims 16-29 having been withdrawn from consideration by the Examiner.

All Claims Define Allowable Subject Matter

Claims 1-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Related Art FIGs. 2 and 3F in view of Kakuda et al. (US 5,162,933). Applicant respectfully traverses the rejection as being based upon Applicant's Related Art and a reference that neither teach nor suggest the novel combination of features recited by independent claim 1, and hence dependent claims 2-14.

Initially, Applicant wishes to thank the Examiner for pointing out the minor informality of claim 1. Applicant respectfully confirms the Examiner's observation with regard to the specific recitation of "...and the metal layer is formed." Accordingly, Applicant has amended independent claim 1 to correct the informality.

The Office Action alleges that Applicant's Related Art FIGs. 2 and 3F discloses all the features of claim 1, "except the metal layer formed on an entire surface of each of the data lines." Accordingly, the Office Action relies upon Kukada et al. for allegedly showing "an LCD device having a data line 11b with a metal layer formed on the entire surface." In addition, the Office

Action alleges that “[w]ith such a configuration, the materials of the data line provide a light blocking function, have good heat resistance, may lower the electrical resistance, and help simplify the manufacturing process because the data line can be formed simultaneously with the pixel electrode (col. 6, line 61 – col. 7, line 29). Thus, the Office Action concludes that it would have been obvious to “modify the data line of the APAF by forming a metal layer on the entire data line as taught by Kakuda to provide a light blocking data line having good heat resistance, a specified electrical resistance, and a reduced manufacturing steps.” Applicant respectfully disagrees.

Applicant respectfully asserts that Kakuda et al. is completely silent with regard to teaching that covering the ITO layer 11a with a molybdenum-base alloy layer 11b results in providing “a light blocking data line having good heat resistance, a specified electrical resistance, and a reduced manufacturing steps,” as alleged by the Office Action. Moreover, Applicant respectfully asserts that the passage cited by the Office Action in Kakuda et al. is wholly unrelated to covering the ITO layer 11a with a molybdenum-base alloy layer 11b. Furthermore, in contrast to allegation made by the Office Action, Applicant respectfully asserts that Kakuda et al. fails to teach or suggest “the materials of the data line provide a light blocking function, have good heat resistance, may lower the electrical resistance, and help simplify the manufacturing process because the data line can be formed simultaneously with the pixel electrode (col. 6, line 61 – col. 7, line 29).”

First, Applicant respectfully asserts that Kakuda et al. actually teaches (col. 6, line 61 – col. 7, line 29) that the active matrix structure according to the disclosed invention of Kakuda et al. “permits a substantial reduction of the leakage currents which result from the irradiation of the thin film transistors by light and allows a substantially increase in the amount of charge

which can be stored in the pixel capacitance.” Specifically, Applicant respectfully asserts that Kakuda et al. is explaining benefits of the features discloses at col. 6, line 4 to col. 6, line 60. Specifically, Kakuda et al. explicitly discloses that the structure of the light block layers 18 and the storage capacitance electrodes and lines 17 and 29 of the active matrix structure are responsible for the benefits described at col. 6, line 61 – col. 7, line 29.

Second, Applicant respectfully asserts that Kakuda et al. actually discloses that it is the structure of the light block layers 18 and the storage capacitance electrodes and lines 17 and 29 of the active matrix structure that results in low manufacturing costs, and not covering the ITO layer 11a with a molybdenum-base alloy layer 11b. Furthermore, Applicant respectfully asserts that Kakuda et al. explicitly discloses that minimizing the number of manufacturing steps is a result of “simultaneous formation of the windows for connection of the storage capacitance lines and the windows for the connection of the matrix lines of the thin film transistors,” and not due to covering the ITO layer 11a with a molybdenum-base alloy layer 11b.

Third, Applicant respectfully asserts that Kakuda et al. is completely silent with regard to benefits of covering the ITO layer 11a with a molybdenum-base alloy layer 11b, especially resulting in “the materials of the data line provide a light blocking function,” “have good heat resistance,” “may lower the electrical resistance,” and “help simplify the manufacturing process because the data line can be formed simultaneously with the pixel electrode,” as alleged by the Office Action. For example, while Kakuda et al. may explicitly disclose benefits of forming the active matrix structure using the structure of the light block layers 18 and the storage capacitance electrodes and lines 17 and 29, Applicant respectfully asserts that Kakuda et al. fails to teach or suggest any benefits of covering the ITO layer 11a with a molybdenum-base alloy layer 11b in order to establish a prima facie case of obviousness with regard to independent claim 1, and

hence dependent claims 2-14. Specifically, Applicant respectfully asserts that Kakuda et al. fails to teach or suggest any proper motivation with which to modify Applicant's Related Art FIGs. 2 and 3F.

MPEP 2143.03 instructs that “[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 409 F.2d 981, 180 USPQ 580 (CCPA 1974).” Accordingly, because the applied art does not teach or suggest **all the claim limitations**, Applicant respectfully asserts that the Office Action has not established a *prima facie* case of obviousness.

Since the Office Action fails to meet the requirements for establishing a *prima facie* case of obviousness as to independent claim 1, claim 1 is not obvious. Furthermore, since claims 2-14 depend from claim 1 and incorporate all the features of claim 1, claims 2-14 are not obvious at least for the above reasons for which independent claim 1 is not obvious. Thus, Applicant respectfully requests that the rejection of claims 1-14 under 35 U.S.C. § 103(a) be withdrawn.

For at least the above reasons, Applicant respectfully submits that claims 1-14 are neither taught nor suggested by Applicant's Related Art FIGs. 2 and 3F and Kakuda et al., whether taken alone or in combination. Thus, Applicant respectfully asserts that the rejection under 35 U.S.C. § 103(a) should be withdrawn because the above-discussed novel combination of features are neither taught nor suggested by Applicant's Related Art FIGs. and the applied reference.

CONCLUSION

In view of the foregoing, Applicant respectfully requests reconsideration and timely allowance of the pending claims. Should the Examiner believe that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicant's undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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